

SECTION 4: GAPS IN THE INTER-JURISDICTIONAL BIKEWAY NETWORK

PURPOSE

This section identifies some of the gaps in an inter-jurisdictional bikeway network primarily composed of bike paths not necessarily reliant on transit. The gap list provides guidance for local planners on where connectivity is needed. These gaps can be filled by on-street or off-street facilities. These include completion of the river bike paths, rails-with-trails, or on-street connectors between two facilities or communities.

We are defining the term “inter-jurisdictional bikeway network” as an interconnected system of bikeways, not necessarily reliant on transit, but connecting to major destinations, linking cities or as routes to transit destinations. One or a combination of the following design options can be used to close gaps in the network:

- Class I: Separated bi-directional bike path
- Class II: Striped on-street bike lane
- Class III: Signed on-street bike route
- Grade separations
- Shoulders and Share the Road signage

Each city and the County are encouraged to consider projects that fill these gaps in the bikeway network so that a completed network can be realized. Projects can be developed as stand-alone, elements of larger improvements to streets or bridges, or as part of street repaving projects. When infrastructure is upgraded, bicycle facilities need to be accommodated. Improving access to the network is also important. Ridership significantly increases with the completion of networks.

While each gap is unique, the constraints and approaches can generally be classified into one of several basic types, described below. The final type of project selected to overcome the gap depends on the results of an in-depth feasibility study. When considering the completion of a gap, it is important to assess the potential user groups likely to use the facility. While a gap closure project may look good on a map, in reality very few people may use the new project for reasons unrelated to the new project

itself. For example, the route may traverse a heavy industrial area that is isolated and discourages commuter travel.

Gap constraints can be classified into the following topics:

Engineering Issues

Remaining gaps in the regional bikeway network include many with significant engineering obstacles. The most common engineering challenge is where the facility is identified on a local roadway, and the road cannot be easily widened to provide bike lanes or shoulders. Technical solutions may be found on these projects, but the cost or traffic impacts may be so substantial in some cases as to impact overall feasibility.

Operational Issues

Many remaining segments would need to traverse potentially incompatible land uses, such as airports, active ports, railroad corridors, and freeway interchanges. In some cases, technical and operational solutions can be found to overcome these gaps. In others, the cost or impacts may impact the project feasibility.

Property Issues

While some of the gaps are located on public property, some agencies may be reluctant to allow access or assume liability, and in other cases, adjacent landowners may protest allowing access because of perceived losses of privacy, security, and other issues.

SETTING

Los Angeles County has one of the largest networks of Class I bike paths in California, with some of the longest and most heavily used pathways as well. The diversity of pathway locations throughout the County ranges from beach pathways to paths along channelized rivers, and abandoned or active railroad right-of-way.. Many local agencies in the County are actively planning for new or expanded pathways to meet the growing demand for places to walk and/or bicycle away from traffic.



While many gaps may be short missing segments of a larger system, they all have a large impact on usage and safety.

An analysis of existing gaps was conducted in Los Angeles County, focusing on connections. An initial list of gaps was created and mapped, and submitted for review and comment. Stakeholders identified additional gaps and staff added these to the table and maps. These gaps are listed in Table 1 beginning on page 102 and shown in Map 14 on page 105 and Map 15 on page 106.



LA River Bike Path



Table 1 – Gaps in the Inter-Jurisdictional Bikeway Network

Gap	Corridor Name	Jurisdiction	Location	Description (From/To)	Constraints	Proposed by	Shown in Map #
1	West Santa Ana Branch Metro Right-of-Way	Artesia/Cerritos	West Santa Ana Branch ROW	Bike path between Bellflower and Coyote Creek/Orange County border	ROW	Metro/Stakeholder Meeting	2
2	Santa Monica Blvd	Beverly Hills	Beverly Hills/Santa Monica Blvd	Gap in Class II bike lanes between Moreno and Doheny	City concurrence & sponsorship	Stakeholder Meeting	1,2
3	Chandler	Burbank	Burbank	Chandler/Mariposa to Olive/Front and Metrolink Station	Active rail on Front St corridor	Metro / SFV-NC Team	1
4	Connector	Burbank	Los Angeles River through Burbank	Connection to San Fernando Rd Metrolink ROW Bike Path	Route not identified	Metro / SFV-NC Team	1
5	Lincoln Blvd	Caltrans	Lincoln Blvd	Connection between Westchester/LAX & Santa Monica	ROW, Crossing over Ballona Creek	Stakeholder Meeting	2
6	Compton Creek	Compton	Compton Creek near Alameda Street	Connection from Greenleaf to SR-91	Compton Autoplaza Site divides two completed portions of bike path.	SCRWC	2
7	Duarte to San Gabriel River Bike Path Connection	Duarte, Irwindale	South of Duarte Bike Path, through Sante Fe Dam Recreation Area	Royal Oaks to SGR via Highland Ave and adjacent to I-605	ROW	Duarte	1,2
8	1st Street	LA City	Downtown/Boyle Heights	Connection between downtown and Boyle Heights/East LA	Narrow Bridge, Light Rail	LACBC	1,2
9	Arroyo Seco/LA River	LA City	Lincoln Heights area	Connection from future LA River path to existing Arroyo Seco path	ROW	Metro/LACBC/ Stakeholder Meeting	1,2
10	Balboa Blvd	LA City	Balboa Blvd	Connection between Victory Blvd and Roscoe (Van Nuys Airport)	Urban arterial	LA City	1
11	Exposition Bikeway	LA City	Ballona/Expo connection to LA River	Connection from Expo Bikeway eastern terminus to LA River	Route not identified	Metro	2
12	Cahuenga Pass	LA City	Cahuenga Blvd	Connection between Hollywood and North Hollywood/Studio City	Congested mountain pass and freeway adjacent	LA City	1,2
13	Exposition Bikeway	LA City	Western Extension Exposition Bikeway	Connection between Sepulveda and Centinela	ROW or on-street	LA City	1,2
14	Jefferson Blvd	LA City	Jefferson Blvd	Connection between Culver City (Fox Hills Mall/Transit Center) & Playa del Rey	Urban arterial	Stakeholder Meeting	2
15	LA River	LA City	Phase 4 Riverside Dr to Barham	Western extension of LA River Bike Path	134 Fwy /will require phases	Metro/LA City	1,2
16	LA River	LA City	Right of way for Los Angeles River future segments, Barham to Owensmouth	Final phases of river bike path as yet undetermined.	Requires feasibility study	Stakeholder Meeting	1,2
17	Sepulveda Blvd	LA City	Westchester	Manchester to Westchester Pkwy	Urban arterial	LACBC	2
18	Sepulveda Blvd.	LA City	Sepulveda Blvd in Sherman Oaks	Connection from northern terminus of existing bike lanes north to Balboa Park	Urban arterial	LA City	1
19	Sepulveda Pass	LA City	Sepulveda Blvd	Connection Sepulveda bike lanes south to Expo ROW	Congested mountain pass and freeway adjacent	LA City	1,2
20	Sepulveda Tunnel	LA City	LAX/Sepulveda Blvd	Connection between Manchester and Imperial	Narrow Tunnel	LA City	2
21	Woodland Hills - Orange Line to Chatsworth	LA City	Metro ROW - north/south	Orange Line terminus to Chatsworth Metrolink Station	Some leases on ROW	Metro / SFV-NC Team / LA City	1
22	Wilshire Blvd/UCLA	LA City/Beverly Hills	Wilshire Blvd	Mid Wilshire corridor to Westwood/UCLA	Urban arterial	Stakeholder Meeting	1,2
23	West San Fernando Valley	LA City/Calabasas	Woodland Hills	Orange Line terminus to Calabasas	Route not identified	Metro / SFV-NC Team / LA City	1,2



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Gap	Corridor Name	Jurisdiction	Location	Description (From/To)	Constraints	Proposed by	Shown in Map #
24	Foothill Blvd	LA City/Glendale/LA County/La Cañada-Flintridge	Foothill Blvd	Connection between Wentworth (LA City) and Oak Grove (La Cañada)	Urban arterial	Stakeholder Meeting	1
25	Ocean Blvd	LA City/Long Beach	Harbor Area	Connection between Harbor Bike Lanes & LA River terminus	Vincent Thomas and Gerald Desmond Bridges	LA City/Stakeholders	2
26	Western Ave	LA City/Rancho Palos Verdes	Western Ave/Harbor Area	Connection between Westmont & 25th Street	Route not identified	Stakeholder Meeting	2
27	Connector to LA River Path	LA City/Wilmington	Anaheim Street or other corridor	Connection between Figueroa and Long Beach/LA River	Route not identified	Stakeholder Meeting	2
28	Beach	LA County	Pacific Palisades/Malibu	Northern extension of South Bay Beach Bike Path through Malibu	Requires feasibility study	LA County	1,2
29	Colima Road	LA County	Rowland Heights (Unincorporated)	Colima Road between Fullerton Rd and Diamond Bar City Limits	ROW width	Stakeholder Meeting	2
30	Old Road	LA County	Old Road adjacent to Golden State Fwy	Connection between Valencia/Santa Clarita & San Fernando Rd Metrolink ROW Bike Path in the San Fernando Valley	Class II or III. Might require shoulder improvements/road widening in some places.	Metro/Stakeholder Meeting	1
31	Route 126	LA County	NW LA County unincorporated	Connection between Santa Clarita and Ventura County Line	Class II or III. Might require shoulder improvements/road widening in some places.	Santa Clarita/LA County	1
32	Whittier Greenway	LA County	Unincorporated county area	Connection between Whittier City limits and SGR trail	Route not identified	RMC	2
33	Workman Mill Road	LA County	Workman Mill Road	Connection between Whittier Bike Path & Rio Hondo College	Route not identified	Stakeholder Meeting	2
34	Connector	LA County/Carson	Los Angeles River near Del Amo Blvd.	Connection between LA River path and Compton path terminus	Route not identified	Stakeholder Meeting	2
35	Beach	LA County/LA City	Marina del Rey	South Bay Beach Bike Path through the Marina	Existing Class II on Washington	LA County	2
36	Beach	LA County/LA City	Fisherman's Village	Connection between Fisherman's Village and Ballona Creek Bike Path	Existing Class III on Fiji Way	LA County	2
37	LA River	LA County/LA City	Los Angeles River through central LA	Corridor being studied as part of Los Angeles River revitalization	Active railroad and industrial uses	LA City/Metro	1,2
38	La Mirada/Colima Connector	LA County/La Mirada	La Mirada Blvd	Connection between Whittier (La Colima Rd) and La Mirada Blvd in La Mirada	Route not identified	Stakeholder Meeting	2
39	Beach	LA County/Palos Verdes Estates	Torrance Beach/Palos Verdes Drive	Southern extension of beach bikeway, connector to Palos Verdes Dr. path	Route not identified	Stakeholder Meeting	2
40	Mills Avenue	LA County/Santa Fe Springs	Mills Ave	Connection between Norwalk Blvd. & Whittier Greenway Bike Path	Route not identified	Stakeholder Meeting	2
41	Beach	Long Beach	Long Beach Harbor	Connection between beach path and Orange County/San Gabriel River	Route not identified	Stakeholder Meeting	2
42	Carson Blvd	Long Beach/Lakewood	Carson Blvd	Connector between LA River and Carson Blvd bike path	Urban arterial	Stakeholder Meeting	2
43	Willow	Long Beach/Signal Hill	Willow St	Connection between LA River & SGR	Urban arterial	Stakeholder Meeting	2
44	Coyote Creek	Orange County/LA County	Coyote Creek Channel	Completion of Coyote Creek Bike Path east of North Fork	ROW, bridges, jurisdictional issues	Stakeholder Meeting	2

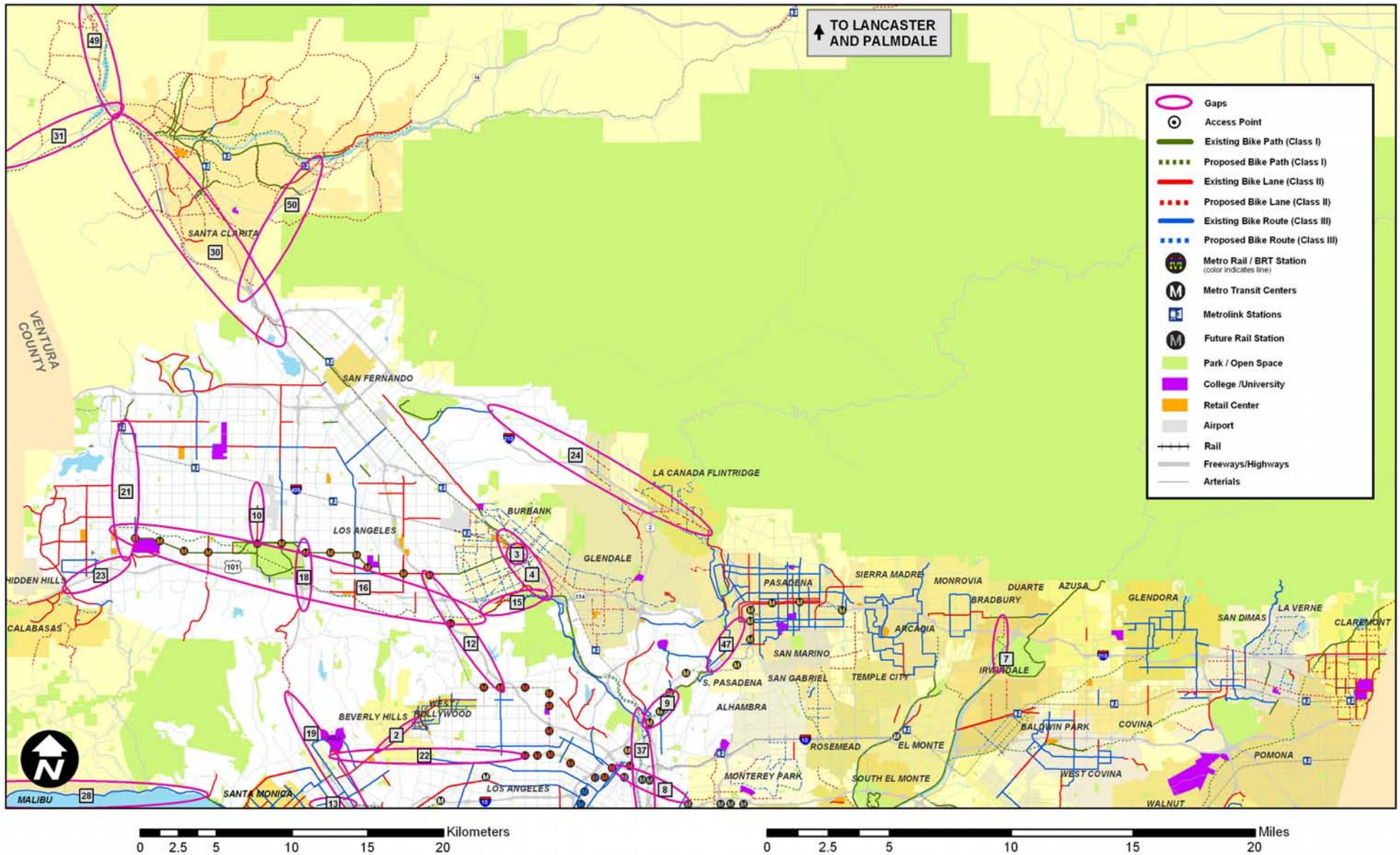


METRO BICYCLE TRANSPORTATION STRATEGIC PLAN

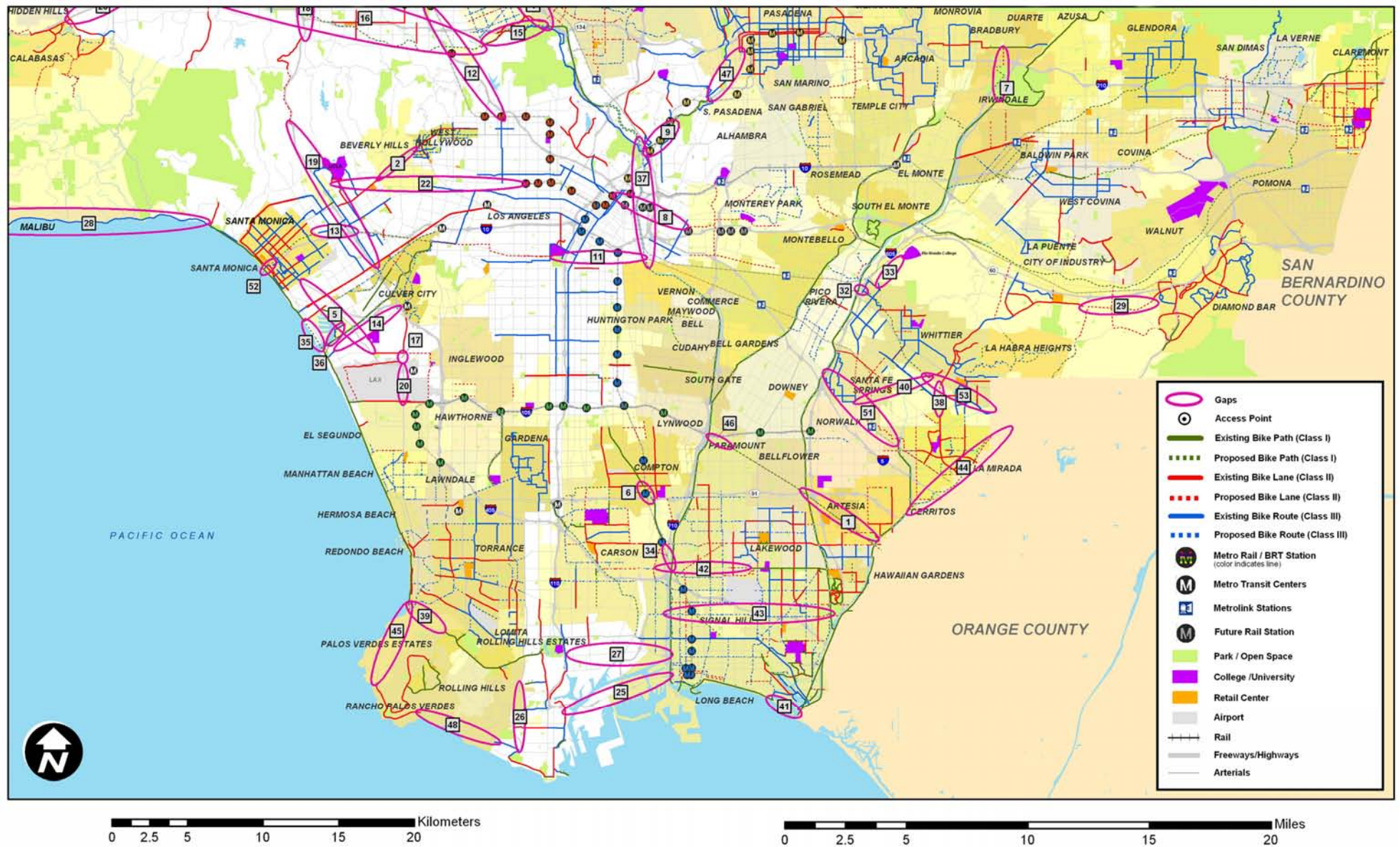
Gap	Corridor Name	Jurisdiction	Location	Description (From/To)	Constraints	Proposed by	Shown in Map #
45	Palos Verdes Drive West	Palos Verdes Estates	Palos Verdes Drive West	Connection between beach bike path terminus in Redondo Beach & Bike Lanes in Rancho Palos Verdes	Route not identified	Stakeholder Meeting	2
46	West Santa Ana Branch	Paramount/LA County	NW terminus of planned multi-city project	Connection between San Gabriel River & West Santa Ana Branch ROW	DWP ROW, Active RR, adjacent 105 fwy	RMC	2
47	Arroyo Seco	Pasadena	Arroyo Seco Park	Connection from existing Arroyo Seco path into Pasadena	Route not identified	LACBC	1,2
48	Palos Verdes Drive South	Rancho Palos Verdes	Palos Verdes Drive South	Connection between Abalone Cove Shoreline Park & LA City limit	Route not identified	Stakeholder Meeting	2
49	Castaic/San Francisquito Creek	Santa Clarita/LA County	Castaic Creek; San Francisquito Creek; Golden State Fwy	Connector between Santa Clarita & Castaic Lake	Class II or III improvement: might require shoulder improvements/road widening.	Stakeholder Meeting	1
50	Sierra Highway	Santa Clarita/LA County	Sierra Highway	Connection between the Old Road & Soledad Canyon Bike Path	Class II or III improvement: might require shoulder improvements/road widening.	Stakeholder Meeting	1
51	Connector	Santa Fe Springs	Surface streets	Connection between Coyote Creek and SGR path	Route not identified	Santa Fe Springs	2
52	Beach	Santa Monica	Central Santa Monica/Colorado	Connection between downtown Santa Monica to Beach Path	Cliff & narrow high traffic road	Stakeholder Meeting	2
53	Whittier Greenway	Whittier	Whittier/RR ROW	Extending Whittier Bike Path to Orange County Line	ROW	Stakeholder Meeting	2
NOTE: Meetings were held in which Metro received input from local agencies and stakeholder groups. All identified gaps were included on the map. Every project does not necessarily reflect Metro regional priorities.							
Acronyms: LACBC (Los Angeles County Bicycle Coalition), RMC (Rivers and Mountains Conservancy), SGRWC (San Gabriel River Watershed Council),							
SFV-NC (San Fernando Valley-North County Area Team)							



Map 14 – Gaps in the Inter-Jurisdictional Bikeway Network, #1



Map 15– Gaps in the Inter-Jurisdictional Bikeway Network, #2



SUMMARY OF MAJOR GAPS

Beach Bike Paths

From Pacific Palisades north of Santa Monica to the Orange County line in Long Beach, beach bike pathways exist for approximately 65% of the coastline. The beach paths are some of the most heavily used pathways in the County, primarily for recreational purposes but also for limited commute and utilitarian trips. A connected beach pathway system would benefit those who wanted to travel or exercise on a pathway separated from busy roadways.

The major existing gaps on the beach bike path system are located in the Los Angeles and Long Beach harbors. All of these gaps have major physical impediments, including the perceived lack of right-of-way, busy roadways, and the bike prohibitive bridges.

The entire beach bikeway system needs a consistent signage system for identity, access, and directions. Public agencies along this corridor should consider establishing consistent designs and operations. The Los Angeles County Department of Public Works' *Los Angeles River Signage Guidelines* is an example of an effort to develop such a system.

Los Angeles River Bike Path and Tributary Paths

This bike path system is the second longest in Los Angeles County, following the San Gabriel River system. It connects the central County, San Gabriel Valley, and San Fernando Valley with Long Beach, and links diverse communities in between. The path network also includes the Arroyo Seco, Compton Creek,



LA River Downtown facing north

and the Upper Rio Hondo Trail. Located on the maintenance road for the channelized river, the paths are well used in areas but suffer from a combination of poor access, unattractive surroundings, a lack of lighting at key locations, and perceptions of safety problems in other areas.

The major gap of the system is from Vermont through downtown Los Angeles. This area is currently heavily industrialized and congested by railroads and freeways. Any redevelopment of this area should include improvements to bicycle circulation in the area. Future connections from the Los Angeles River to the Arroyo Seco path and into Glendale will help this corridor serve as a major bicycle commuter route. Elsewhere, the facilities can be improved through a combination of enhanced maintenance and security, landscaping, lighting, and access and crossing improvements.

San Gabriel River Bike Path and Tributary Paths

The longest continuous pathway in Los Angeles County, and one of the longest urban bike paths in the country, the San Gabriel River Bike Path extends from Azusa in the San Gabriel foothills, more than 38 miles to Long Beach, traversing more than 10 cities en route. Its tributary, the Coyote Creek Trail, extends along the Orange County border from Long Beach to La Mirada. Usage levels vary on the pathway, with the busiest areas being the upper end at the Santa Fe Dam (Whittier Narrows, Emerald Necklace) and the lower end in the city of Long Beach.



Whittier Greenway Trail to San Gabriel River Trail

This pathway system is relatively continuous and does not have any major gaps, except at the southern terminus where it has a gap at the Long Beach



Marina connecting to the beach pathway and at the northern section in the City of Duarte. The pathways could use enhanced maintenance and security, landscaping, support amenities, and better crossings and access.

Rail-to-Trail Corridors

Abandoned rail corridors in Los Angeles County, such as the Whittier Greenway, are being considered or have been utilized for bike paths. Many of these corridors are former Pacific Electric Railway rights-of-way. The corridors offer a unique opportunity to provide a separate bike path for bicyclists and others, instead of busy roadways. The major challenges of using these corridors are (a) current ownership, (b) potential future use as a transit corridor, (c) current leases on the property, (d) concerns from adjacent neighbors, (e) numerous mid-block street crossings, often at sharp angles, and/or (f) location of the right-of-way in the median of an existing street. Cities such as Whittier, Long Beach, Redondo Beach, Burbank, and others are finding ways to overcome these challenges and are actively developing bikeways in these corridors.

Rails-with-Trails

Bike paths have been proposed, and in some cases developed, within active rail corridors in Los Angeles County. The City of San Fernando Bike Path is one of the oldest in the County, and others (such as the City of Los Angeles San Fernando Road Bike Path, the Orange Line Bike Path, and the future Exposition Bike Path) are in stages of design, construction, and completion. While rails-with-trails have been developed successfully in Los Angeles County, there are many potential constraints that could affect feasibility. In some cases, space needs to be preserved for future planned transit or commuter rail service. In other cases, limited width, inadequate setbacks, and numerous mid-block crossings may affect a project's feasibility. The Southern California Regional Rail Authority (SCRRA), the region's commuter rail agency, has published guidelines for rail-with-trails which identify the normal requirements for this type of facility.

Bikeways and Transit Lines

These facilities are similar to rails-with-trails and have many of the same issues. A key difference is that a bikeway can be constructed as part of a new transit project, such as the Expo LRT bikeway and Orange Line bikeway. Integration of the bikeway into the planning, design, and construction allows planners to resolve technical issues and reduce the cost of the bikeway by constructing it together with a larger project. Having policies calling for multi-modal facilities (transit plus bicycle and pedestrian accommodation) is key to ensuring that bikeways are integrated into future transit lines.

STEPS TO COMPLETING GAP PROJECTS

Solutions for each type of gap can be classified, and include:

On-Road Options for Paths

When connecting existing bike paths, an off-road option is always the first preference. However, in many cases there is simply no available right-of-way and connections must be made along public roads. Unless the connecting road is a very low-traffic, wide, and low-speed roadway (which is not common), an on-street connector may not be used by the vast majority of pathway users. While the gap will appear to be closed on a map, in effect there will still be two disconnected pathways with the connector being used by a small number of more experienced riders who probably ride the route already. Basic steps and considerations in selecting the appropriate road and treatments include:

Step 1: Select a Roadway. Identify a road that offers the best combination of direct connectivity, lower traffic volumes, the lowest speeds, the widest curb lane, intersection protection, and the least commercial driveways. The selected roadway may have trade-offs between these criteria. For example, a slightly more circuitous route may offer less traffic and vehicle speeds than a direct route, and be a viable alignment. However, a very circuitous route through



residential neighborhoods may not function as a connector at all. An alternatives analysis will help select the top ranked alignment.

Step 2: Bike Lanes versus Bike Routes. Bike lanes provide a demarcated space for bicyclists within the roadway right-of-way, which is especially important on streets with moderate or higher volumes and speeds. Bike routes offer very little benefit to cyclists on busy roadways, but can help to guide them through a network of streets. On any street carrying over 10,000 vehicles per day (vpd) at speeds of 30 mph or higher and is proposed to serve as a connector for Class I bike paths, bike lanes should be provided. Travel and turn lane widths should be evaluated to determine if they can be narrowed or eliminated based on long-term traffic projections and local level of service (LOS) standards.

Step 3: Innovative Techniques. There are a wide variety of innovative techniques that can help make an on-street connector bikeway attract a wide variety of user groups. Any technique that helps to slow traffic and maximize separation between bicyclists and vehicles is beneficial. This may include traffic calming techniques (such as curb extensions, narrower travel lanes), streetscape projects (medians, planting strips), bicycle boulevards, and bicycle stencils. In downtown and commercial areas, for example, it may be beneficial to slow traffic speeds through a variety of traffic calming and streetscape treatments

Grade Separations

Waterways such as Long Beach Marina, Los Angeles Harbor, Marina Del Rey, and the channelized rivers all serve as major constraints to Class I bike paths. In most cases, major new structures would need to be constructed to cross these waterways, either as part of a new roadway bridge, a new dedicated bikeway bridge, and/or a new bikeway undercrossing of a roadway along a channelized river. The best option in terms of cost efficiency is to simply program bikeways to be included when new bridges or crossings are constructed. Where this is not possible, the priority should go to structures that serve the greatest demand, address existing safety problems, and provide a connection that does not currently exist. Where a

new roadway or bridge has been constructed that does not provide bicycle access, viable alternatives may include enhanced transit links or alternative signed routings.

Future Transportation Corridors

Bike paths have been constructed and are being planned and proposed along many of the Metro-owned railroad and transit lines in Los Angeles County. When they can be planned in conjunction with future rail services (such as the Exposition LRT line) they can provide excellent connections for bicycle commuters. In other cases, concerns about safety, liability, and trespassing, especially on the part of private and public railroad operators, may make the use of an active railroad corridor difficult. Refer to the SCRRA rail-with-trail guidelines and the FHWA/FRA Rails-with-Trails: Lessons Learned publication.

Rails-to-Trails

Many of the abandoned railroad lines in Los Angeles County have had bike paths developed or are being considered for bike paths. In order to be functional and provide an adequate level of safety, bike paths with numerous street crossings must be very carefully designed. Where the crossings occur more than every 500 feet on average, with many mid-block crossings, the corridor may be more suitable for a series of neighborhood greenways than a Class I bike path.

RESOURCES

Numerous planning and design resources exist to help local agencies find appropriate solutions to completing gap closure projects. Some of the most relevant documents are listed below.

Chapter 1000: Bikeway Planning and Design, Caltrans Highway Design Manual (2001)

Guide for the Development of Bicycle Facilities, AASHTO (2004)



Implementing Bicycle Improvements at the Local Level, USDOT, FHWA (1998)

MUTCD 2003 California Supplement: Part 9: Traffic Control for Bicycle Facilities (2004)

Rails-with-Trails: Lessons Learned, FHWA/FRA (2005)

Selecting Roadway Design Treatments to Accommodate Bicycles, USDOT, FHWA (1994)

The Bicycle Compatibility Index: A level of Service Concept, Implementation Manual, USDOT, FHWA (1998)

A set of design guidelines has been developed by Caltrans and Alta Planning + Design as part of the Technical Reference Guide (2004).



SECTION 5: PROJECT IMPLEMENTATION AND FUNDING

PROJECT IMPLEMENTATION STEPS IN DEVELOPING A BIKEWAY PROJECT

There is a standard sequence of implementation steps that all new bikeway projects go through, and could be used by local agencies to initiate or complete development of the project.

1. Identify the project (see the Bike-Transit Hub List in Appendix A and the Gap List on page 102).
2. Conduct a feasibility analysis. Also known as a preliminary engineering study, this is a critical step for almost all bikeway projects. Feasibility studies are important for several reasons. They:
 - a. allow local agencies and the public an opportunity to provide input;
 - b. evaluate multiple alignment and design options;
 - c. include an understanding of potential users, their needs and patterns;
 - d. consider connectivity, access, safety, and other elements; and
 - e. help develop more accurate cost estimates.

With the completion of a feasibility study, public agencies stand a much greater chance of receiving competitive funding for final design and construction as well.

Many bikeway projects that have received funding may have been conceived differently had they gone through a feasibility study process. Early in the feasibility process, fatal flaws and viable alternatives can be identified that help ensure timely project completion. Basic elements of a feasibility study include:

Existing Conditions: A summary of existing bikeways, activity centers, destinations, land use zoning, traffic volumes and speeds, collision patterns, right-of-way ownership, plans and policies, and environmental issues.

Needs Analysis: A summary of user needs and patterns, input from the public and local agencies – typically through a public workshop and/or surveys, and estimates of future demand.

Alternatives Analysis: An evaluation of each alternative using criteria based on the adopted goals and policies, plus factors such as cost, demand, right-of-way availability, and other issues.

Preferred Alignment: A preferred alignment and design is selected and shown in maps, sections, and plans. Normally, base mapping is done on available aerial photos.

Preliminary Design: In California, the primary design standards are the Caltrans Highway Design Manual Chapter 1000 and the Manual on Uniform Traffic Control Devices (MUTCD) – California Edition. Details of the project such as crossings, bridges, and other features may be developed in concept-level detail. Items such as signing and striping, drainage, landscaping, trailheads, and other support features may also be developed.

Cost and Phasing: Cost estimates are developed based on the plans and designs, and broken down by item and segment. As needed, the project phasing over time is shown along with priorities for implementation.

Management Plan: A summary of how the pathway will be operated and maintained, including safety, security, liability, emergency response, and other topics are addressed.

There are a variety of potential funding sources including local, state, regional, and federal funding programs that can be used to construct the proposed bicycle improvements. Most of the Federal and State programs are competitive, and involve the completion of extensive applications with clear documentation of the project need, costs, and benefits. Local funding for projects can come from sources within jurisdictions that compete only with



other projects in each jurisdiction's budget. A detailed summary of available funding programs along with the latest relevant information is provided on the following pages.

FEDERAL FUNDING PROGRAMS

ISTEA

In 1991, The Intermodal Surface Transportation Efficiency Act (ISTEA) was passed by Congress, recognizing the increasingly important role of bicycling and walking in creating a balanced, intermodal transportation system. Important provisions require State DOTs to fund a bicycle and pedestrian coordinator, and increase use of nonmotorized modes and public and safety programs. Other selected provisions are as follows:

- When Federal-aid funds are being used to replace or rehabilitate bridge decks, except on fully access controlled highways, safe bicycle accommodations must be considered and provided where feasible.
- Construction of a pedestrian walkway or a bicycle transportation facility are deemed to be highway projects; hence, the Federal share is 80 percent.
- No motorized vehicles should be allowed on any trails except as necessary for maintenance.
- Bicycle projects must be principally for transportation rather than recreational purposes.

The National Bicycling and Walking Study, published in 1994, outlines a plan of action to promote bicycling and walking as viable transportation options. The goals are to double the percentage of trips made by bicycling and walking, and reduce the number of casualties by 10 percent. (www.fhwa.dot.gov)

SAFETEA-LU

The Safe, Accountable, Flexible, Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU), adopted in 2005 and scheduled to expire in 2010, is the new federal transportation legislation that affects virtually

all federal bikeway funding. Federal funding is administered through the California Department of Transportation (Caltrans) and the Los Angeles County Metropolitan Transportation Authority (Metro). Most, but not all, of the funding programs are transportation (versus recreation) oriented, with an emphasis on (a) reducing auto trips and (b) providing inter-modal connections. Funding criteria often requires quantification of the costs and benefits of the system (such as saved vehicle trips and reduced air pollution), proof of public involvement and support, California Environmental Quality Act (CEQA) compliance, and commitment of some local resources. In most cases, SAFETEA-LU provides matching grants of 80 to 90 percent – but prefers to leverage other funds at a lower rate.

Projects that receive funding through Metro must apply through the biennial Call for Projects. The required local match for these funds is 20 percent and projects compete based on a number of criteria. Metro administers local SAFETEA-LU funds through the Call for Projects. Metro encourages projects that include attributes such as the following.

1. Provide more Class II bike lanes.
2. Improve the bicycle-transit connection.
3. Provide a low-cost transportation option.
4. Complete a regional spine of Class I bike paths.
5. Provide bicycle parking.
6. Provide safety and/or directional amenities.

Regional Surface Transportation Program Fund (STP)

The Surface Transportation Program is a block grant fund. Funds are used for roads, bridges, transit capital, bicycle projects – including bicycle transportation facilities, bike parking facilities, equipment for transporting bicycles on mass transit vehicles and facilities, bike-activated traffic control devices, preservation of abandoned railway corridors for bicycle trails, and improvements for highways and bridges. SAFETEA-LU allows the transfer of funds from other SAFETEA-LU programs to the STP funding category.



Transportation Enhancements Program (TE)

The TE Program is a 10 percent set-aside of funds from the Surface Transportation Program. Projects must have a direct relationship to the intermodal transportation system through function, proximity, or impact. Two Enhancement Activities are specifically bicycle related: (1) provision of facilities for bicyclists, (2) preservation of abandoned railway corridors (including the conversion and use thereof for bicycle trails).

Congestion Mitigation and Air Quality Improvement Program (CMAQ)

Funds are available for projects that will help attain National Ambient Air Quality Standards (NAAQS) identified in the 1990 federal Clean Air Act Amendments. Projects must come from jurisdictions in non-attainment areas, and the South Coast Air Quality Management District is a non-attainment area. Eligible projects include bicycle transportation facilities intended for transportation purposes, bicycle route maps, bicyclist activated traffic control devices, bicycle safety and education programs and promotional programs.

Highway Safety Improvement Program (HSIP)

This is a new program to replace the Safety Set-aside program. It significantly increases funding to \$5 billion over four years (2006-2009). Bicycle and pedestrian projects historically accounted for one percent of safety construction funds, which would mean \$50 million over the life of SAFETEA-LU. The program is very similar in scope and purpose to the safety set-aside program in TEA-21; projects to improve the safety of bicyclists and pedestrians are eligible.

- Installation of rumble strips “if the rumble strips or other warning devices do not adversely affect the safety and mobility of bicyclists, pedestrians and the disabled.
- An improvement for pedestrian or bicyclist safety.
- Construction of traffic calming feature.
- Installation and maintenance of fluorescent yellow-green pedestrian/bicycle crossing warning signs (Section 1401).

- Is developed after consultation with “representatives of major modes of transportation.”
- Produces a “program of projects” to reduce safety problems.
- Is evaluated regularly.
- Includes an annual report to the Secretary of Transportation.

Recreational Trails Program (RTP)

This is a five-year federal funding program at \$370 million. At least 30% must be spent on nonmotorized trail projects, which will mean at least \$110 million over the life of SAFETEA-LU.

Transportation, Community, and System Preservation Program (TCSP)

This federal program was created as a pilot by TEA-21. The program is made permanent with \$270 million over five years. Funding is eligible to be used for bicycle and pedestrian projects; a number of projects funded under TEA-21 were for NMT programs. (Section 1117)

Highway Safety Programs

Section 2001 authorizes \$1,060 million for Section 402 Highway Safety Programs and \$500 million for Section 403 Highway Safety Research. Both of these programs are administered by the National Highway Traffic Safety Administration and are focused on education and enforcement. This has been an important but small source of funding for bicycle and pedestrian safety education programs.

STATE FUNDING PROGRAMS

Bicycle Transportation Account (BTA)

The State Bicycle Transportation Account (BTA) is an annual statewide discretionary program that is available through the Caltrans Bicycle Facilities Unit for funding bicycle projects. Available as grants to local jurisdictions, the emphasis is on projects that benefit bicycling for commuting purposes. The program is currently funded at \$5-million annually through fiscal year



2005/06. Agencies may apply for these funds through the Caltrans Office of Bicycle Facilities. Applicant cities and counties are required to have a bicycle plan that conforms to Streets and Highways Code 891.2 in order to qualify to compete for funding on a project-by-project basis. A local match of 10% is required for all awarded funds.

Safe Routes to School (AB1475)

The Safe Routes to School program is a state program using allocated funds from the Hazard Elimination Safety program of SAFETEA-LU. This program is meant to improve school commute routes by eliminating barriers to bicycle travel through rehabilitation, new projects, and traffic calming. A local match of 11.5% is required for this competitive program, which allocates \$18-million annually. Planning grants are not available through this program.

Community Based Transportation Planning (CBTP) Grants

The CBTP grant program funds local planning activities that encourage livable communities. The intention of the grants is to help communities better integrate land use and transportation planning, to develop alternatives for addressing growth, and to ensure that infrastructure investments are efficient and meet community needs. Funding is provided by 80% Federal/State and 20% local match.

Office of Traffic Safety (OTS)

The primary objective of the program is to reduce motor vehicle fatalities and injuries through a national highway safety program. Priority areas include police traffic services, alcohol and other drugs, occupant protection, bicycle safety, emergency medical services, traffic records, roadway safety, and community-based organizations. The Office of Traffic Safety (OTS) provides grants for one to two years. The California Vehicle Code (Sections 2908 and 2909) authorizes the apportionment of federal highway safety funds to the OTS program. Eligible agencies are: state, city, and county governmental agencies, school districts, fire departments, public emergency service providers, state colleges, and

universities. Non-profit and community-based organizations are eligible through a “host” governmental agency.

A bicycle safety program should strive to increase safety awareness and skills among pedestrians, bicyclists, and drivers. The program should include the following three components: education, enforcement, and engineering. Educational efforts may address specific target groups or the entire community. Enforcement efforts may include speed enforcement, bicycle helmet and pedestrian violations, and the display of radar trailers near schools and areas of high bicycle usage. Engineering includes developing a “Safe Routes to School” component to complement educational efforts.

Environmental Enhancement and Mitigation Program

Funds, when available, are allocated to projects that offset environmental impacts of modified or new public transportation facilities including streets, mass transit guideways, park-n-ride facilities, transit stations, tree planting to equalize the effects of vehicular emissions, and the acquisition or development of roadside recreational facilities. This program is currently unfunded (2005).

AB 2766

AB 2766 Clean Air Funds are generated by a surcharge on automobile registration. The South Coast Air Quality Management District (AQMD) allocates 40 percent of these funds to cities according to their proportion of the South Coast's population for projects that improve air quality. The projects are up to the discretion of the city and may be used for bicycle projects that could encourage people to bicycle or walk in lieu of driving. The other 60 percent is allocated through a competitive grant program that has specific guidelines for projects that improve air quality. The guidelines vary and funds are often eligible for a variety of bicycle projects.



LOCAL FUNDING

Metro Call for Projects

Metro programs a variety of federal, state, and local revenues to regionally significant projects in the Transportation Improvement Program (TIP) for Los Angeles County through a competitive “Call for Projects.” Projects that create benefits for bicycle transportation can be funded, if eligible and competitive, through the Transportation Demand Management (TDM), Bikeway, and Regional Surface Transportation Improvements (RSTI) modal categories. In the past, Metro awarded \$10 million in TDM, over \$83 million in Bikeway, and funds in the RSTI modal categories for bicycle facilities.

Prop C 20% Local Return

These revenues are generated from L.A. County’s ½ cent sales tax for public transit purposes. Funds can be used for congestion management programs, bikeways and bike lanes, transit-related TDM programs, street improvements supporting public transit service and related services to meet the Federal requirements for Americans with Disabilities Act (ADA). Metro is required to distribute Local Return funds directly to the cities on a per capita basis. To expend the Prop C 20% funds, local jurisdictions must submit forms for Metro approval.

Transportation Development Act (TDA)

The TDA creates a Local Transportation Fund (LTF) in each county in which a ¼ cent sales tax of the state sales tax is deposited annually based on the amount of sales tax collected. The funds are allocated based on population. Bicycle and pedestrian facilities are eligible for up to 2% of the total TDA funds available.

New Construction

Future road widening and construction projects are one means of providing bikeways. To ensure that roadway construction projects provide bike lanes where needed, it is important that an effective review process

is in place to ensure that new roads meet the standards and guidelines presented in this Plan. Developers may also be required to dedicate land toward the widening of sidewalks and roadways in order to provide for enhanced pedestrian and bicycle mobility.

Impact Fees and Developer Mitigation

Another potential local source of funding is developer impact fees, which typically tie to trip generation rates and traffic impacts produced by a proposed project. A developer may reduce the number of trips (and hence impacts and cost) by providing or paying for on- or off-site bikeway improvements that will encourage residents to bicycle rather than drive. In-lieu parking fees may be used to help construct new or improved bicycle parking. Establishing a clear nexus or connection between the impact fee and the project’s impacts is critical in avoiding a potential lawsuit.

Mello Roos

Bike paths, lanes, and routes can be funded as part of a local assessment or benefit district. Defining the boundaries of the benefit district may be difficult unless the facility is part of a larger parks and recreation or public infrastructure program with broad community benefits and support.

Business Improvement Districts

Bicycle improvements can often be included as part of larger efforts at business improvement and retail district beautification. Similar to Mello Roos assessments, Business Improvement Districts collect levies on businesses in order to fund area-wide improvements that benefit businesses and improve access for customers. These districts may include provisions for pedestrian and bicycle improvements, such as wider sidewalks, landscaping, and ADA compliance.

Other opportunities for implementation will appear over time.

